

AGENCY OF NATURAL RESOURCES
DEPARTMENT OF ENVIRONMENTAL CONSERVATION
WASTEWATER MANAGEMENT DIVISION
103 SOUTH MAIN STREET
WATERBURY, VERMONT 05671-0405

FACT SHEET
(November 2006)

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT TO
DISCHARGE TO WATERS OF THE UNITED STATES

NPDES NO: VT0100498
FILE NO: 11-01
PERMIT NO: 3-1166
PROJECT ID NO: RU98-0314

NAME AND ADDRESS OF APPLICANT:

Town of Benson
PO Box 163
Benson, VT 05731-0163

NAME AND ADDRESS OF FACILITY WHERE DISCHARGE OCCURS:

Benson Wastewater Treatment Facility
Benson, Vermont

RECEIVING WATER: an unnamed tributary of the Hubbardton River

CLASSIFICATION: Class B with a waste management zone. Class B waters are suitable for bathing and recreation, irrigation and agricultural uses; good fish habitat; good aesthetic value; acceptable for public water supply with filtration and disinfection. A waste management zone is a specific reach of Class B waters designated by a permit to accept the discharge of properly treated wastes that prior to treatment contained organisms pathogenic to human beings.

I. Proposed Action, Type of Facility, and Discharge Location

The above named applicant applied on May 26, 2006 to the Vermont Department of Environmental Conservation for renewal of the permit to discharge into the designated receiving water. At this time the Department has made a tentative decision to reissue the discharge permit. The facility is engaged in the treatment of municipal wastewater. The discharge is from the outfall of the Town of Benson Wastewater Treatment Facility to an unnamed tributary of the Hubbardton River.

II. Description of Discharge

A quantitative description of the discharge in terms of significant effluent parameters is based on state and federal laws and regulations, the discharge permit application, and the recent self-monitoring data.

III. Limitations and Conditions

The effluent limitations of the permit, the monitoring requirements, and any implementation schedule (if required), may be found on the following pages of the permit:

Effluent Limitations:	Page 2 of 17
Monitoring Requirements:	Pages 3 - 5 of 17
Implementation Schedule:	Page 3 of 17

IV. Permit Basis and Explanation of Effluent Limitation Derivation

The Town of Benson owns and operates the Benson Wastewater Treatment Facility, an aerated lagoon facility (two lagoons: one primary and one secondary) that provides secondary treatment and chlorine disinfection (and dechlorination) of municipal wastewater. The 8" outfall pipe extends 650 feet to the tributary of the Hubbardton River. The collection system consists of approximately 4700 linear feet of mainly 8" A.C. pipe as well as some PVC pipe. There are 22 precast concrete manholes. There is one pump station, the Benson Village School P.S., which was constructed in 1986.

A 20-year engineering evaluation was completed in June 2006 by Stantec. The evaluation identifies several areas where improvements are needed to the treatment facility including the collection system.

The lagoons were recently cleaned of sludge (August 2006) and the aeration system was replaced. (The previous cleanout occurred in 1986.) Improvements were also made to the blower room (blower replaced) and the yard piping was inspected and cleaned.

Flow - The effluent flow limitation remains at 0.0177 MGD, annual average, representing the facility's design flow. In general, the facility maintains a continuous discharge.

Because a flow meter is scheduled to be installed at the facility this fall, language has been added to the permit that the permittee shall demonstrate the accuracy of the flow measurement device monthly and report the results on the monthly Discharge Monitoring Report form.

Biochemical Oxygen Demand (BOD₅) - The effluent limitations for biochemical oxygen demand remain unchanged from the previous permit. The monthly average (30 mg/l) and weekly average (45 mg/l) reflect the minimum level of effluent quality specified for secondary treatment in 40 CFR Part 133.102. In addition, the permit

contains a 50 mg/l, maximum day, BOD limitation. This is the Department standard applied to all such discharges pursuant to 13.4 c. of the Vermont Water Pollution Control Permit Regulations. The Agency implements the limit to supplement the federal technology based limitations to prevent a gross one-day permit effluent violation to be offset by multiple weekly and monthly sampling events which would enable a discharger to comply with the weekly average and monthly average permit limitations. Mass limits (4.4 lbs/day, monthly average and 6.6 lbs/day, weekly average) are derived by multiplying the concentration limits by the permitted flow. The BOD quarterly monitoring requirement is unchanged from the previous permit.

Total Suspended Solids (TSS) - The monthly average and weekly average effluent limitations for total suspended solids remain unchanged from the previous permit. The monthly average (30 mg/l) and weekly average (45 mg/l) reflect the minimum level of effluent quality specified for secondary treatment in 40 CFR Part 133.102. In addition, the permit contains a 50 mg/l, maximum day, TSS limitation (the previous permit contained a limit of 55 mg/l, maximum day). This is the Department standard applied to all such discharges pursuant to 13.4 c. of the Vermont Water Pollution Control Permit Regulations. The Agency implements the limit to supplement the federal technology based limitations to prevent a gross one-day permit effluent violation to be offset by multiple weekly and monthly sampling events which would enable a discharger to comply with the weekly average and monthly average permit limitations. Mass limits (4.4 lbs/day, monthly average and 6.6 lbs/day, weekly average) are derived by multiplying the concentration limits by the permitted flow. The TSS quarterly monitoring requirement is unchanged from the previous permit.

pH - The pH limitation remains at 6.5 - 8.5 Standard Units as specified in Section 3-01 B.9. in the Vermont Water Quality Standards, effective July 2, 2000. Monitoring is required daily consistent with other municipal discharge permits. The previous permit requirement was 5 days/week.

Settleable Solids - The limitation of 1.0 ml/l instantaneous maximum remains unchanged from the previous permit. This numeric limit was established in support of the narrative standard in Section 3-01 B.5. of the Vermont Water Quality Standards, effective July 2, 2000. Daily monitoring is required consistent with other municipal discharge permits. The previous permit requirement was 5 days/week.

The previous permit, consistent with other facilities, required collection of settleable solids samples between 10:00 AM and 2:00 PM or during the period of peak flow. As requested by the Town, the period of time for collecting a settleable solids sample has been changed to "between 6:00 AM and 6:00 PM or during the period of peak flow". The Town indicated that because the facility is an aerated lagoon system, flows do not vary by more than 10%. With the limited data obtained by the recently installed effluent flow meter, the Town was able to confirm this assumption.

Total Phosphorus - The 2002 "Lake Champlain Phosphorus Total Maximum Daily Load" established a phosphorus mass loading allocation for the Benson WWTF utilizing an effluent concentration of 5.0 mg/l at the design flow of the facility (0.0177 MGD).

That allocation (0.122 metric tons per year or 268 pounds per year) is being incorporated into this permit.

The annual total pounds is the sum of the quarterly totals, which are calculated by multiplying the total quarterly flow x the quarterly average phosphorus concentration x 8.34. The annual total must be submitted with the December monthly monitoring report and the running total pounds for each calendar year shall be included with the respective self-monitoring report. Monitoring is unchanged at quarterly.

***E. coli* Bacteria** - The *E. coli* limitation is 77/100 ml as specified in Section 3-04 B.3., Vermont Water Quality Standards, effective July 2, 2000. Quarterly monitoring remains the same as in the previous permit.

Total Residual Chlorine (TRC) - The TRC limit of 0.1 mg/l is based on meeting the instream water quality acute and chronic chlorine criteria (0.019 mg/l and 0.011 mg/l respectively) in the Vermont Water Quality Standards, effective July 2, 2000 for the protection of aquatic biota. Daily monitoring is required consistent with other municipal discharge permits. The previous permit requirement was 5 days/week.

Whole Effluent Toxicity (WET) and Priority Pollutant Testing - 40 CFR Part 122.44(d)(1) requires the Department to assess whether the discharge causes, has the reasonable potential to cause, or contribute to an excursion above any narrative or numeric water quality criteria. Whole Effluent Toxicity testing is not being required in the proposed permit. Results from a sample collected by the Town in August 2006 indicated that this discharge did not have the potential to cause an instream toxic impact.

Implementation Schedule – According to the engineering evaluation, in May 2006, the end of the outfall pipe was inspected and it was found that the originally designed stone headwall and outfall riprap are missing. In addition, 13' of the pipe has been eroded away. The permit includes a schedule to repair the pipe and stone armor by November 1, 2007 such that the pipe extends to the confluence of the streams as originally constructed.

Waste Management Zone - As defined under 10 V.S.A. §1251(16), a waste management zone is “a specific reach of Class B waters designated by a permit to accept the discharge of properly treated wastes that prior to treatment contained organisms pathogenic to human beings. Throughout the receiving waters, water quality criteria must be achieved but increased health risks exist due to the authorized discharge”.

The proposed permit retains the existing waste management zone (WMZ) that extends downstream from the outfall for approximately three miles in the unnamed tributary of the Hubbardton River.

Electric Power Failure - Within 30 days of the effective date of the permit, the permittee must submit to the Department, documentation addressing how the discharge will be handled in the event of an electric power outage. The effluent must receive a minimum of primary treatment (or in the case of ultraviolet light disinfection systems, not less than secondary treatment) plus disinfection.

V. Procedures for Formulation of Final Determinations

The public comment period for receiving comments on this draft permit is from October 6 through November 5, 2006 during which time interested persons may submit their written views on the draft permit. All written comments received by 4:30 PM on November 5, 2006 will be retained by the Department and considered in the formulation of the final determination to issue, deny or modify the draft permit. The period of comment may be extended at the discretion of the Department.

Written comments should be sent to:

Vermont Agency of Natural Resources
Department of Environmental Conservation
Wastewater Management Division - Sewing Building
103 South Main Street
Waterbury, VT 05671-0405

Comments may also be faxed to: 802-241-2596.

Any interested person or groups of persons may request or petition for a public hearing with respect to this draft permit. Any such request or petition for a public hearing shall be filed within the public comment period described above and shall indicate the interest of the party filing such request and the reasons why a hearing is warranted.

The Department will hold a hearing if there is significant public interest in holding such a hearing. Any public hearing brought in response to such a request or petition will be held in the geographical area of the proposed discharge or other appropriate area, at the discretion of the Department and may, as appropriate, consider related groups of draft permits. Any person may submit oral or written statements and data concerning the draft permit at the public hearing. The Department may establish reasonable limits on the time allowed for oral statements and may require the submission of statements in writing. All statements, comments, and data presented at the public hearing will be retained by the Department and considered in the formulation of the final determination to issue, deny, or modify the draft permit.

The complete application, draft permit, and other information are on file and may be inspected at the VTDEC, Wastewater Management Division, Waterbury Office. Copies will be made at a cost based on the current Secretary of State Official Fee Schedule for Copying Public Records from 8:00 AM to 4:30 PM, Monday through Friday. The draft permit and fact sheet may also be viewed on the Division's website at www.anr.state.vt.us/dec/ww/wwmd.cfm.

One comment from the Town was received during the public notice period.

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Benson
WWTF

0 200M

0 200yd

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